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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,277	10/21/2004	Hiromu Ueshima	100341-00054	6411

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EXAMINER	
HOEL, MATTHEW D	
ART UNIT	PAPER NUMBER
3714	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

NT

Office Action Summary	Application No.	Applicant(s)	
	10/511,277	UESHIMA, HIROMU	
	Examiner	Art Unit	
	Matthew D. Hoel	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 6-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 6-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6, 7, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al (U.S. Patent No. 5,741,182) in view of Ueshima et al (U.S. Patent No. 6,929,543) in further view of Malone (U.S. Patent No. 5,269,519) and Togami (U.S. Patent No. 6,394,897).

Regarding claim 1, Lipps discloses all of the elements of Claim 1, but lacks an acceleration sensor as taught by Ueshima. Lipps et al shows a game machine that displays a ball on a monitor screen through execution of a game program in which a CPU player controlled by a computer program plays a match against said player, which is capable of being applied to tennis (Figure 1; column 2, lines 18-28; column 3, lines 6-13). In addition, Lipps et al teaches calculating the predicted return position of said ball from the CPU player, in this case, the pitcher, but can also be applied to tennis (column 3, lines 6-13). Lipps et al lack and acceleration sensor taught by Ueshima et al (column 3, lines 45-53), however, Lipps et al does teach a transmission means capable of generating the acceleration signal (column 2, lines 51-57), where a transmission circuit is inherent in the means of transmitting. Lipps et al also teaches a swing detection

means which is capable of detecting if a racket was swung (column 2, lines 34-44), where a swing detection circuit is inherent in the means of detecting a swing. It would have been obvious to one or ordinary skill in the art at the time the invention was made to modify Lipps et al by providing the acceleration sensor means (acceleration circuit is inherent) taught by Ueshima et al, judging whether a player can get to the ball or not and automatic movement to that position if the player cannot get there, and another calculation for speed of the ball after being hit. This would create excitement and some ease in a game where there are too many limitations to virtually implement. It takes away from the complexity and allows the player to enjoy himself or herself more.

The combination of Lipps and Ueshima lacks in a calculation for calculating an initial speed vector, which is capable of being obtained from the data obtained. Malone, however, teaches a calculation for calculating an initial speed vector, which is capable of being obtained from the data obtained (Malone, column 4, lines 18-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the initial speed vector of Malone to the combination of Lipps and Ueshima. Lipps and Ueshima are both highly analogous art in that they are both swingable controllers used for controlling video games (Abst., Fig. 1, both patents). Since Ueshima teaches its controller having accelerometers, determining an initial speed vector as taught by Malone would be obvious and simple to do as speed is simply a calculus integral of acceleration, so multiple accelerations measured by Ueshima's accelerometers over even time increments could easily perform this calculation. Malone is highly analogous art to the other references as it determines

speed, angle, impact, and distance of a swingable implement (2:41-67, 4:18-24) in video gaming systems (3:30-52), similar to the video game swingable controllers of Lipps and Ueshima. The advantage of this particular combination would be to make the video game's visual display more realistic by accurately determining the speeds of characters and objects displayed to the player. This is a very minor modification, and neither one of the base references, Lipps and Ueshima would be altered from its intended mode operation.

The combination of Lipps, Ueshima, and Malone also lacks the judgment of current position of the player to be in strikable range and a ball striking position movement means for moving a ball striking position of said player as taught by Togami. Togami teaches a judgment of current position of the player to be in strikable range and a ball striking position movement means for moving a ball striking position of said player (column 22, claim 5), where the ball striking position movement means is inherent in the system to be a circuit. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made that in video games such as this to employ the positional judgment of Togami in relation to the combination of Lipps, Ueshima, and Malone where the nearest player may move to the position the ball or item is judged to end up. Such a judgment means/circuit would be obvious to implement in the tennis game so that if the other player hits a ball within a certain range that it can be judged whether it can be returned or not. If it cannot be returned, then the player will win that point and the game will have some reality involved where it would simulate the "virtual" impossibility of reaching the point of the ball. In the case the player can reach the ball,

the player then is automatically moved to that point as in Togami, and the player may get a chance to swing at the tennis ball to keep the point going.

Alternatively the limitations "a judgment circuit for judging whether a current position of said player is in a ball strikable range by comparing said predicted return position and the current position of said player; a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment by said judgment circuit" of Claim 1 would have been *obvious* in light of Togami instead of anticipated. An analysis of Fig. 13 cites moving the player character to the landing position of the ball if the player is *less* than a successful receiving distance away from the ball's determined landing position (S106). Note, however, that this step occurs *after* the most suitable player character is determined (S106). Possibly the inventor of '897 is using whether or not the player character is greater than a maximum distance from the determined landing position to select the player character closest to and most appropriate for interfering the ball. 13:7-14 of '897 discusses that step S106 selects the player with the shortest distance from the determined landing position. In all possible situations in '897 all of the players, including the closest ones, will still be possibly *greater than the range of interception* (receivable range of applicant's terminology), but less than the successful receiving distance (strikable range of applicant's terminology), so '897 will still have to draw the player in as cited in '897, Fig. 13:S106. The examiner notes that drawing in a player to the landing position when the player is less than a successful receiving distance from the landing position is mathematically identical to drawing in the

player to the landing position when the player is greater than (the successful receiving distance minus an infinitesimal amount) from the landing position. In any event, '897 does teach the cited limitations from the applicant's Claim 1 in Claims 5 and 6, though apparently not explicitly in the specification. *Either way, '897 teaches those limitations. In both '897 and the applicant's specification, the effect on game play is identical*, so if '897 does not expressly anticipate the cited claim limitation from the applicant's Claim 1, *it is an obvious design choice over the method cited in '897, Fig. 13, because the applicant has not stated in the specification or in any of the remarks how the applicant's particular way of calculating whether to draw in the player to the landing based on the ball strikable range has any advantage over Togami's ('897) manner of doing the same.* As noted above, both methods have identical outcomes to game play and are mathematically little different. Moreover, it appears that '897, or the applicant's invention, would both perform equally well modified to move the player to within ball strikable range as cited in the applicant's Claim 1: "by comparing said predicted return position and the current position of said player; a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment by said judgment circuit." Accordingly, it would have been prima facie obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified '897 to "compare said predicted return position and the current position of said player; and include a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment

by said judgment circuit," because such a modification would have been considered a mere design consideration which fails to patentably distinguish above Togami ('897).

Regarding claim 6, Lipps et al shows a game machine that displays a ball on a monitor screen through execution of a game program in which a CPU player controlled by a computer program plays a match against said player, which can also be applied to tennis (Figure 1; column 2, lines 18-28; column 3, lines 6-13). In addition, Lipps et al teaches calculating the predicted return position of said ball from the CPU player, in this case, the pitcher, but can also be applied to tennis (column 3, lines 6-13). Lipps et al lacks and acceleration sensor taught by Ueshima et al (column 3, lines 45-53), however, Lipps et al does teach a transmission means capable of generating the acceleration signal (column 2, lines 51-57), where the transmission means is inherent to be a circuit. Lipps et al also teaches a swing detection means which is capable of detecting if a racket was swung (column 2, lines 34-44), where a swing detection circuit is inherent in the means of detecting a swing. Malone teaches a calculation for calculating an initial speed vector, which is capable of being obtained from the data obtained (column 4, lines 18-24). Togami teaches a judgment of current position of the player to be in strikable range and a ball striking position movement means for moving a ball striking position of said player (column 22, claim 5). It would have been obvious to one of ordinary skill in the art that in video games such as this to employ the positional judgment where the nearest player may move to the position the ball or item is judged to end up. Such a judgment means/circuit would be obvious to implement in the tennis game so that if the other player hits a ball within a certain range that it can be judged

whether it can be returned or not. If it cannot be returned, then the player will win that point and the game will have some reality involved where it would simulate the "virtual" impossibility of reaching the point of the ball. In the case the player can reach the ball, the player then is automatically moved to that point as in Togami, and the player may get a chance to swing at the tennis ball to keep the point going. It would be Duplication of Parts (MPEP 2144.04) to have a second racket for the game to be two-player in that all the stated elements would be duplicated for that second player and racket input. It also would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lipps et al by providing the acceleration sensor means taught by Ueshima et al, judging whether a player can get to the ball or not and automatic movement to that position if the player cannot get there, and another calculation for speed of the ball after being hit. This would create excitement and some ease in a game where there are too many limitations to virtually implement. It takes away from the complexity and allows the player to enjoy themselves more.

Regarding claim 7, Lipps et al teaches all of the claimed invention except for specifically disclosing a tennis racket that includes an operating switch (column 5, lines 64-67) and a position movement means for moving said ball striking position on said monitor screen from forward position to backward position of from backward position to forward position, which is capable of being done by Lipps et al (column 3, lines 19-24). Lipps et al does teach a transmission means for a sensor, but Ueshima et al teaches the acceleration sensor. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify Lipps et al by providing the acceleration sensor for a more efficient way of reading the acceleration of the racket.

Regarding claim 8, Lipps et al teaches all of the claimed invention except for specifically disclosing that the a racket input device contained transmission means including an infrared light-emitting element for transmitting said acceleration correlation signal and said operation signal by means of infrared light (column 2, lines 51-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lipps et al so that a racket specifically contains the infrared transmission means to create less physical protrusions, in turn, lifting the satisfaction of the game.

Regarding claim 9, Lipps et al teaches all of the claimed invention except for said transmission means digital-modulates and transmits said acceleration correlation signal and said operation signal to said game machine; and said game machine digital-demodulates said acceleration correlation signal and said operation signal transmitted by said transmission means. Ueshima et al teaches a game processor in Figure 4 that has the acceleration sensor 46 connected to the A/D converter input, which it is then inherent that the processor will demodulate the digital signal after conversion so that it may read it. It would have been obvious to on of ordinary skill in the art at the time the invention was made to modify Lipps et al by providing the sensor conversion means taught by Ueshima et al so that the game processor will encompass the responsibility of converting and determining the data being sent in a quick manner through use of the A/D converter already built in.

Response to Arguments

1. Applicant's arguments with respect to Claims 1 and 6 to 9 have been considered but are moot in view of the new ground(s) of rejection. New grounds of rejection have been alternatively made to 102/103. The applicant appears to be splitting hairs. The examiner believes that "receivable range" as used by the applicant means within arm's length as there is no movement of the player character in Figs. 17 and 18 of the applicant's drawings. The examiner believes that "strikable range" as used by the applicant means the distance within which the player can run to intercept the volleyball before it hits the ground, as there is movement of the player character in the applicant's Figs. 19 and 20 if the player is at a greater distance than a strikable range from the volleyball's determined landing point. The examiner believes that successful "successful receiving distance" of Togami ('897, Fig. 13) is equivalent to the applicant's "strikable range." Togami in '897, Fig. 13, determines whether the player is within "strikable" distance (as defined by the applicant by determining first which player character is the most suitable for intercepting the volleyball (S106) in relation to the volleyball's determined landing position (S102) and moving the player character to the volleyball's determined landing position (S110) if the player is greater than a successful receiving distance (S109) from the volleyball's determined landing position. The previous examiner quoted Claim 5 of '897 in the final rejection, while the present examiner believes he should have quoted Claims 5 and 6 of '897 to be most clear:

2. "5. A video gaming machine according to claim 4, wherein said automatic receiving action means further includes automatic player character movement means for automatically moving said any one of the at least the portion of the player characters to said landing position when said control disabling means disables control.

3. "6. A method of processing video game images for a video game machine for playing a volleyball video game by displaying two volleyball teams on a court in virtual space, at least one of the volleyball teams having player characters controllable by a game player, the method comprising the steps of: determining a landing position of a ball in the virtual space; displaying an indicia at the determined landing position of the ball on said monitor; controlling any one of at least a portion of the player characters to make a receiving action to receive the ball until said ball reaches said landing position; and automatically implementing the receiving action when any one of said at least the portion of the player characters and said indicia are spaced from each other by a predetermined distance."

4. This method, on its face, appears to be identical to the applicant's cited limitation in Claim 1: "a judgment circuit for judging whether a current position of said player is in a ball strikable range by comparing said predicted return position and the current position of said player; a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment by said judgment circuit." The applicant's claimed limitation moves the player to the ball's return position if the player is at a greater distance from the ball's landing position than the strikable range. Claims 5 and 6 of '897

appear to do the identical thing because they cite "automatically implementing the receiving action when any one of ... the player characters and said indicia *are spaced from each other by a predetermined distance*" (emphasis added). An analysis of Fig. 13, however, cites moving the player character to the landing position of the ball if the player is *greater* than a successful receiving distance away from the ball's determined landing position (S106). Note, however, that this step occurs *after* the most suitable player character is determined (S106). Possibly the inventor of '897 is using whether or not the player character is greater than a maximum distance from the determined landing position to select the player character closest to and most appropriate for interfering the ball. 13:7-14 of '897 discusses that step S106 selects the player with the shortest distance from the determined landing position. Reading this obliquely, perhaps the computer is comparing the distances of the players from the determined landing position to the distance of the player closest to the landing position, and using the closest player to the determined landing point whose position is still greater than the successful striking distance of Fig. 13:S106, but this is unclear from the passage. In all possible situations in '897 all of the players, including the closest ones, will still be possibly greater than the range of interception, so '897 will still have to draw the player in as cited in '897, Fig. 13:S106. The examiner notes that drawing in a player to the landing position when the player is less than a successful receiving distance from the landing position is mathematically identical to drawing in the player to the landing position when the player is greater than the successful receiving distance minus an infinitesimal amount from the landing position. In any event, '897 does teach the cited

limitations from the applicant's Claim 1 in Claims 5 and 6, though apparently not explicitly in the specification. Either way, '897 teaches those limitations. In both '897 and the applicant's specification, the effect on game play is identical, so if '897 does not expressly anticipate the cited claim limitation from the applicant's Claim 1, it is an obvious design choice over the method cited in '897, Fig. 13, because the applicant has not stated in the specification or in any of the remarks how the applicant's particular way of calculating whether to draw in the player to the landing based on the ball strikable range has any advantage over Togami's ('897) manner of doing the same. As noted above, both methods have identical outcomes to game play and are mathematically little different. Moreover, it appears that '897, or the applicant's invention, would both perform equally well modified to move the player to within ball strikable range as cited in the applicant's Claim 1: "by comparing said predicted return position and the current position of said player; a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment by said judgment circuit." Accordingly, it would have been prima facie obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified '897 to "compare said predicted return position and the current position of said player; and include a ball striking movement circuit for automatically moving a ball striking position of said player to be approximated to said predicted return position in response to a negative judgment by said judgment circuit," because such a modification would have been considered a mere design consideration which fails to patentably distinguish above Togami ('897). The applicant's best prospect

is to argue how the claim language as cited gives a patentable (novel and non-obvious) distinction over '897 based on the specification, taking care that all limitations are properly supported by the specification. The examiner respectfully disagrees with the applicant as to the claims' condition for allowance.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saikawa, et al. in U.S. patent 6,746,331 B1 teach assisting a player to contact an object by adjusting timing. Welch in U.S. patent 5,823,878 A teaches a golf swing analysis method. Bizzi, et al. in U.S. patent 5,846,086 A teach human trajectory learning. Tosaki, et al. in U.S. patent 6,312,335 B1 teach a video game input device. Togami in U.S. patent 6,371,849 B1 teaches a volleyball video game. Rimoto in U.S. patent 6,257,983 B1 teaches adjustable batting zones based on a player's skill level. Lee, et al. in WIPO publication WO 00/69528 A1, application PCT/US00/12790, teach an instrumented golf club with sufficient structure to anticipate the applicant's independent claims except for the limitations taught by Togami.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Hoel whose telephone number is (571) 272-5961. The examiner can normally be reached on Mon. to Fri., 8:00 A.M. to 4:30 P.M.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Olszewski can be reached on (571) 272-6788. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew D. Hoel, Examiner
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2/12/07

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